

Abstract of the Disclosure:

A method for doping electrically conductive organic compounds, fabricating organic field-effect transistors, and the transistor includes a dopant activated by radiation exposure, introduced into an electrically conductive organic compound, and exposed thereby, which triggers a chemical reaction to irreversibly fix the dopant in the organic compound. Such a transistor is significantly less expensive to fabricate than prior art organic field-effect transistors. Source and drain contacts and a gate electrode are next to one another on a substrate and a gate dielectric insulates the gate electrode. A distance, in which the organic semiconductor is applied directly to the substrate, is formed between gate dielectric and source or drain contact. Back-surface exposure enables production of doped regions in which the organic semiconductor has an increased electrical conductivity, while a low electrical conductivity of the organic semiconductor is retained in the channel region influenced by the field of the gate electrode.

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